

Unifrax Excelfrax® 1800 Flexliner Microporous Insulation

Category : Ceramic , Oxide , Silicon Oxide

Material Notes:

Unifrax Corporation's Excelfrax® product line, based on advanced microporous insulation technology, is a family of products which all exhibit superior insulating characteristics. Excelfrax microporous insulation is composed of inorganic oxides, primarily fumed silica. Silicates and opacifiers are added to improve the material performance. Microporous materials are very efficient insulation products. These products actually have thermal conductivity values lower than still air. Excelfrax 1800 Flexliner is a flexible, thin, microporous insulating panel with superior insulating characteristics. Excelfrax 1800 Flexliner is designed for use between the ladle shell and backup lining. This product can be used to provide maximum thermal efficiency in ladle liner design. By incorporating Excelfrax 1800 Flexliner into a lining design, it is possible to reduce ladle heat loss without decreasing ladle capacity, increase ladle capacity by reducing required thickness of insulating materials, and minimize the amount of solidified metal in the ladle after the casting process is complete. Typical applications for Excelfrax 1800 Flexliner include transfer ladles, torpedo ladles, and tundish insulation. Information Provided by Unifrax I LLC

Order this product through the following link:

http://www.lookpolymers.com/polymer_Unifrax-Excelfrax-1800-Flexliner-Microporous-Insulation.php

Physical Properties	Metric	English	Comments
Density	0.365 g/cc	0.0132 lb/in ³	

Mechanical Properties	Metric	English	Comments
Compression Set	3.7 % @Pressure 0.100 MPa	3.7 % @Pressure 14.5 psi	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.800 J/g-°C @Temperature 32.0 - 800 °C	0.191 BTU/lb-°F @Temperature 89.6 - 1470 °F	
Thermal Conductivity	0.0210 W/m-K @Temperature 20.0 °C	0.146 BTU-in/hr-ft ² -°F @Temperature 68.0 °F	DIN 51046
	0.0230 W/m-K @Temperature 200 °C	0.160 BTU-in/hr-ft ² -°F @Temperature 392 °F	DIN 51046
	0.0280 W/m-K @Temperature 400 °C	0.194 BTU-in/hr-ft ² -°F @Temperature 752 °F	DIN 51046
	0.0340 W/m-K @Temperature 600 °C	0.236 BTU-in/hr-ft ² -°F @Temperature 1110 °F	DIN 51046
	0.0420 W/m-K	0.291 BTU-in/hr-ft ² -°F	DIN 51046

Thermal Properties	@Temperature 800 °C Metric	@Temperature 1470 °F English	Comments
Maximum Service Temperature, Air	1000 °C	1830 °F	Recommended Operating Temperature
Minimum Service Temperature, Air	20.0 °C	68.0 °F	Recommended Operating Temperature
Shrinkage	1.9 %	1.9 %	All sides, long term
	@Temperature 950 °C	@Temperature 1740 °F	
	4.8 %	4.8 %	All sides, long term
	@Temperature 1000 °C	@Temperature 1830 °F	
	0.60 %	0.60 %	Single sided
	@Temperature 1000 °C, Time 43200 sec	@Temperature 1830 °F, Time 12.0 hour	

Component Elements Properties	Metric	English	Comments
SiO2	50 %	50 %	

Descriptive Properties	Value	Comments
Cold Crushing Strength (MPa)	1.3	DIN 51067 / DIN 53421
Color	Silver	
Other Inorganics (%)	5	
ZrSiO4 (%)	45	

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